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BUREAU OF LAND MANAGEMENT



## TECHNICAL NOTE

U.S. DEPARTMENT OF THE INTERIOR - BUREAU OF LAND MANAGEMENT

ARTIFICIAL BRUSH PILES

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## INTRODUCTION

Newly constructed wetlands and islands in old and new reservoirs are usually sparsely vegetated for the first few years. Consequently, this vegetative cover may be insufficient to provide adequate cover for successful duck nesting. Additionally, due to poor soil, high alkalinity, and other factors, these areas may never produce sufficient vegetation to provide the cover and concealment required for the nest itself. Artificial nesting materials in the form of brush piles, when correctly constructed and located, provide nesting cover and protection as would a good stand of natural vegetation.

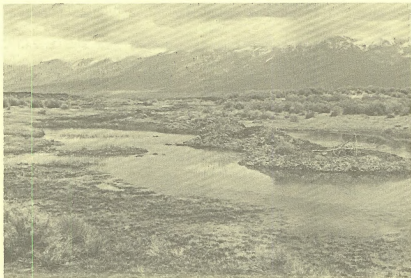
## Brush piles provide:

1. Concealment from predators - an overhead canopy and surrounding brush hide eggs from the view of predators.
2. Protection from predators - the tight network of strong twigs and the small opening eliminate entry by most predators.
3. Protection from the elements - nests are sheltered from the cooling rains, wind and direct sunlight.
4. Harbor for various seeds to sprout in - the network of twigs and grass provide a medium for seed germination and young plant protection.
5. A chance for brush and tree species to establish - using green branches for the construction of the brush piles in muddy areas allows sprouting and development of the brush and tree trimmings used.

Various species of dabbling ducks will be the major nesting inhabitants of the brush piles, although a few species of smaller birds may utilize the available sites.

## SITE SELECTION

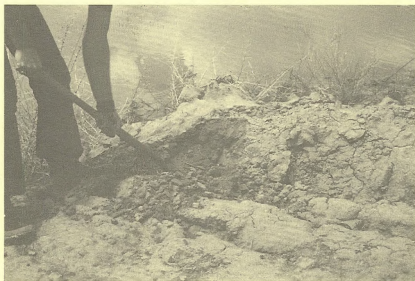
Brush piles can be constructed on any desirable area lacking natural vegetation. Site selection and quality of construction is up to the individual who undertakes the project. Preference goes from islands surrounded by water year round to shorelines and wetland areas. Construction on islands offers the greatest opportunity for a successful nest since they are generally mammal free. Construction on non-island areas leaves the nest more vulnerable to mammalian predators. Location should be where continued erosion will not destroy the brush pile. It should be protected as much as possible from the prevailing winds. Ideal location is 1 to 3 feet from the waters edge, but may vary according to species preference.



## CONSTRUCTION METHODS

Once the site has been selected and a supply of brush (twigs from  $\frac{1}{2}$ " to 2" in diameter and 1' to 4' in length) and a bundle of native grass has been collected, construction is done in four easy steps.

1. Dig a small depression in the soil. The depression should be bowl shaped and approximately 6" deep and 12" in diameter (round).



2. Place twigs 18" to 24" long in a network to provide a supportive canopy over the depression. This is done by pushing one end of the twig into the soil approximately 8" at an angle of 60°. Care must be taken to leave a 6" x 6" opening at ground level to be used as an entrance.



3. Place native grass throughout the inside.



4. Weave more twigs in and around the canopy and place a layer of dense brush over the entire brush pile. This provides additional concealment and protection to the nesting cavity. Leave the 6" x 6" opening free of any obstructions.





All components of the brush pile except the grass should be pushed into the soil or weighted down on one end to prevent movement by the elements.

Construction is best accomplished in the early spring prior to the arrival of migratory birds. The brush piles provide nesting sites for as many years as desired with a little maintenance prior to each nesting season if needed. As time goes on the brush piles will most often develop into a mass of vegetation through vegetative sprouting of the original twigs and through provision of a growing medium for seeds.

#### CONSTRUCTION COSTS

Construction costs involved for building brush piles are very minimal. Only a slight expenditure of time (approx. 20 minutes) per brush pile is required. Construction of the brush piles provide nesting habitat for ducks but it also provides ideal conservation projects for conservation clubs and the Boy Scouts. Brush for the piles can be collected around any tree trimming project or local dumping area. Most often the brush can be hauled away to the appreciation of the donor.

#### UTILIZATION

Brush piles, as a habitat improvement tool, were implemented at the Blanca Wildlife Habitat Area in Canon City District, Colorado. During the first year the piles were utilized by nesting ducks at a very impressive rate. Out of 26 sites constructed, 18 were utilized. The success on the artificial sites was 54%. Success on nests found on natural sites was noted at 38%. Nesting surveys were discontinued after the first year in order to reduce harrassment. Therefore, definite figures are not available after the first year of implementation. Since the quantity and quality of nesting habitat largely determines the total waterfowl population, new nests can be considered true benefits and not just shifts in use patterns.

#### SUMMARY

In areas lacking adequate duck nesting cover, artificial brush piles can be constructed to provide nesting sites. Islands surrounded by water year round provide the best spots for construction. However, any area near water and lacking in vegetation is a potential site. Brush piles are constructed in four steps. The whole process from digging a small depression to placing the dense brush cover takes about 20 minutes and costs are very minimal. Materials are all free and can be picked up most anywhere. The only cost involved is a slight expenditure of time. Conservation clubs and the Boy Scouts could donate time for these much sought after conservation projects.

